WHAT IS CLAIMED IS:

1. An optical pickup apparatus, comprising:

a light source emitting a light beam;

a first diffraction element diffracting a returned light beam based on the light beam emitted from said light source; and

a first photodetector detecting the returned light beam diffracted by said first diffraction element,

said first diffraction element having two regions in first diagonal positions among four regions divided by first and second dividing lines intersecting each other as first and second regions, and third, fourth, fifth and sixth regions obtained by equally dividing the remaining two regions in second diagonal positions by a third dividing line,

said first photodetector having four photodetection parts sectioned by a first section line substantially parallel to the direction in which a condensed spot of the returned light beam diffracted by said first diffraction element is moved by a variation in the wavelength of said light source and a second section line orthogonal to said first section line,

the returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots at positions apart from each other on opposite sides on said first section line with respect to the

intersection of said first and second section lines of said photodetector,

the returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots on the four photodetection parts of said first photodetector or on said first section line.

2. The optical pickup apparatus according to claim 1, wherein

the first, second, third, fourth, fifth and sixth regions of said first diffraction element provide each light beam with a spatial variation corresponding to a focus state on an optical recording medium so that the focus state can be detected by operating the outputs of the four photodetection parts in said first photodetector.

3. The optical pickup apparatus according to claim 2, wherein

the returned light beam diffracted in the third, fourth, fifth and sixth regions of said first diffraction element forms condensed spots substantially in the center of the four photodetection parts in said first photodetector.

4. The optical pickup apparatus according to claim 2, wherein

the returned light beam diffracted in the third, fourth, fifth and sixth regions of said first diffraction element forms condensed spots apart from each other on opposite sides with respect to said second section line of said first photodetector on the first section line or at the four photodetection parts in the vicinity of the first section line.

5. The optical pickup apparatus according to claim 3, wherein

the spatial variation corresponding to said focus state is astigmatism.

6. The optical pickup apparatus according to claim 4, wherein

the spatial variation corresponding to said focus state is astigmatism in said first and second regions, and a variation of condensed spots on the four photodetection parts in said first photodetector based on a Foucault method in said third, fourth, fifth and sixth regions.

7. The optical pickup apparatus according to claim 5, wherein

said astigmatism is provided in a direction substantially at 45° with respect to said first and second section lines of said first photodetector.

8. The optical pickup apparatus according to claim 6, wherein

said astigmatism is provided in a direction substantially at 45° with respect to said first and second section lines of said first photodetector.

9. The optical pickup apparatus according to claim 3, wherein

said first, second, third, fourth, fifth and sixth regions of said first diffraction element are formed to share the intersection of said first, second, and third dividing lines of said first diffraction element as a common origin, said first and second regions of said first diffraction element have grating patterns set with reference to two points on said first section line apart from each other from the intersection of said first and second section lines of said first photodetector, and said third, fourth, fifth and sixth regions of said first diffraction element have grating patterns set with respect to substantial centers of the four photodetection parts in said first photodetector.

10. The optical pickup apparatus according to claim 4, wherein

said first, second, third, fourth, fifth and sixth

regions of the first diffraction element are formed to share the intersection of said first, second and third dividing lines of said first diffraction element as a common origin, the first and second regions of said first diffraction element have grating patterns set with reference to two points on said first section line apart from each other from the intersection of said first and second section lines of said first photodetector and, said third, fourth, fifth and sixth regions of said first diffraction element have grating patterns set apart from each other on opposite sides with respect to said second section line of said first photodetector on said first section line or at the four photodetection parts in the vicinity of said first section line.

11. The optical pickup apparatus according to claim 3, further comprising:

a second diffraction element provided in an optical path between said light source and said first diffraction element, and splitting a light beam emitted from said light source into a main light beam and first and second sub light beams;

a second photodetector having two photodetection parts divided into two by a section line substantially parallel to said first section line of said first photodetector; and

a third photodetector having two photodetection parts divided into two by a section line substantially parallel to

said first section line of said first photodetector,

said first diffraction element diffracting a first returned light beam from said optical recording medium based on said main light beam and guiding said diffracted light beam into said first photodetector, while diffracting second and third returned light beams from said optical recording medium based on said first and second sub light beams and guiding said diffracted light beams into said second and third photodetectors,

said first returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots at positions apart from each other on opposite sides on said first section line with respect to the intersection of the first and second section lines of said first photodetector, said first returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots substantially in the center of the four photodetection parts in said first photodetector,

said second returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots on the section line of said second photodetector, said second returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots in two

photodetection parts in said second photodetector,

said third returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots on the section line of said third photodetector, said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots in the two photodetection parts in said third photodetector.

12. The optical pickup apparatus according to claim 4, further comprising:

a second diffraction element provided in an optical path between said light source and said first diffraction element and splitting a light beam emitted from said light source into a main beam and first and second sub light beams;

a second photodetector having two photodetection parts divided into two by a section line substantially parallel to said first section line of said first photodetector; and

a third photodetector having two photodetection parts divided into two by a section line substantially parallel to said first section line of said first photodetector,

said first diffraction element diffracting a first returned light beam from said optical recording medium based on said main light beam and guiding said diffracted light beam into said first photodetector, while diffracting second and third returned light beams from said optical recording medium

and guiding the diffracted light beams into said second and third photodetectors, respectively,

said first returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots at positions apart from each other on opposite sides on said first section line with respect to the intersection of said first and second section lines of said first photodetector, said first returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots apart from each other on opposite sides with respect to said second section line of said first photodetector on said first section line or at the four photodetection parts in the vicinity of said first section line,

said second returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots on the section line of said second photodetector, said second returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forming condensed spots in the two photodetection parts of said second photodetector,

said third returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots on the section line of said third photodetector, said third returned light beam diffracted in said third, fourth,

fifth and sixth regions of said first diffraction element forming condensed spots in the two photodetection parts of said third photodetector.

13. The optical pickup apparatus according to claim 1, wherein

said first and second dividing lines of said first diffraction element form an angle of about 45° with respect to said first and second section lines of said first photodetector, and said third dividing line of said first diffraction element is substantially parallel to said first section line of said first photodetector.

14. The optical pickup apparatus according to claim 1, wherein

said light source emits a light beam having a far-field pattern in an elliptical shape, said returned light beam forms a light spot in an elliptical shape at said first diffraction element,

the positional relation between said light source and said first diffraction element is set so that the minor axis of said light spot in the elliptical shape extends substantially parallel to said third dividing line of said first diffraction element, and the major axis extends in said first and second regions of said first diffraction element.

15. An optical recording medium drive, comprising:

a rotation driving mechanism rotating an optical recording medium;

an optical pickup apparatus irradiating said optical recording medium with a light beam;

a pickup driving mechanism moving said optical pickup apparatus in the radial direction of said optical recording medium; and

a signal processing part processing an output signal from said optical pickup apparatus,

said optical pickup apparatus comprising:

a light source emitting a light beam;

a first diffraction element diffracting a returned light beam based on the light beam emitted from said light source; and

a first photodetector detecting the returned light beam diffracted by said first diffraction element,

said first diffraction element having two regions in first diagonal positions among four regions divided by first and second dividing lines intersecting each other as first and second regions, and third, fourth, fifth and sixth regions obtained by equally dividing the remaining two regions in second diagonal positions by a third dividing line,

said first photodetector having four photodetection

parts sectioned by a first section line substantially parallel to the direction in which a condensed spot of a returned light beam diffracted by said first diffraction element is moved by a fluctuation in the wavelength of said light beam and a second section line orthogonal to said first section line,

the returned light beam diffracted in said first and second regions of said first diffraction element forming condensed spots at positions apart from each other on opposite sides on said first section line with respect to the intersection of said first and second section lines in said first photodetector, the returned light beam diffracted in the third, fourth, fifth and sixth regions of the first diffraction element forming condensed spots on the four photodetection parts in said first photodetector or on said first section line.

16. The optical recording medium drive according to claim 15, wherein

said first, second, third, fourth, fifth and sixth regions of said first diffraction element provide each light beam with a spatial variation corresponding to a focus state on the optical recording medium so that the focus state can be detected by operating the outputs of the four photodetection parts in said first photodetector.

17. The optical recording medium drive according to

claim 16, wherein

the returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forms condensed spots substantially in the center of the four photodetection parts in said first photodetector.

18. The optical recording medium drive according to claim 16, wherein

the returned light beam diffracted in said third, fourth, fifth and sixth regions of said first diffraction element forms condensed spots apart from each other on opposite sides with respect to said second section line of said first photodetector on the first section line or at the four photodetection parts in the vicinity of the first section line .

19. A holographic optical element, comprising:

a diffraction surface diffracting an incident light beam and forming a condensed spot of the diffracted light beam on a virtual surface,

said diffraction surface having two regions in first diagonal positions among four regions divided by first and second dividing lines intersecting each other as first and second regions, and third, fourth, fifth and sixth regions obtained by equally dividing of the remaining two regions in second diagonal positions by a third dividing line,

said first and second dividing lines forming an angle of about 45° with respect to the intersecting line of a plane including the optical axis of said incident light beam and the optical axis of said diffracted light beam and said diffraction surface,

said third dividing line is substantially parallel to the intersecting line of the plane including the optical axis of said incident light beam and the optical axis of said diffracted light beam and said diffraction surface.

20. The holographic optical element according to claim 19, wherein

said first, second, third, fourth, fifth and sixth regions provide each light beam with a spatial variation corresponding to a focus state on an optical recording medium so that the focus state can be detected by operating the outputs of four photodetection parts in a photodetector.